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**REMARKS**

Claims 1-21 are pending herein. Claims 1, 2, 4, 5, 7-9, 11-13 and 15 have been amended for clarification purposes only. New claims 16-21 are added hereby as supported by paragraph [0020] of the present specification.

1. Claims 1-15 were rejected under §112, second paragraph in paragraph 1 of the Office Action. This rejection is respectfully traversed.

Pending claims 1 and 8 recite that the Group III nitride film "includes at least Al element." This recitation means that the nitride layer includes at least elemental Al, in addition to any other Periodic Table elements that may be included in the Group III nitride film (see specification page 4, paragraph [0023] of the present specification). Accordingly, it is respectfully submitted that skilled artisans would readily understand that claims 1 and 8 each recite an Al-including Group III nitride film that can include other elements from the Periodic Table. Reconsideration and withdrawal of the §112, second paragraph rejection are respectfully requested.

2. Claims 1-7 were rejected under §102(b) over Udagawa. This rejection is respectfully traversed.

Pending independent claims 1 and 8 each recite, among other things, that a Group III nitride film includes at least Al and is formed on a base. The Al-including Group III nitride film has a screw-type dislocation density value up to  $1 \times 10^8/\text{cm}^2$ .

Fig. 2 of Udagawa shows a Group III light emitting device that includes an n-type GaInN active layer 109 sandwiched between an n-type superlattice structure 104 and a p-AlGaIn cladding layer 110. Udagawa discloses that the dislocation density of GaInN active layer 109 can be reduced to  $1 \times 10^8/\text{cm}^2$ . The multiple layers making up the superlattice structure 104, n-GaN lower clad layer 103 and GaN buffer layer 102 are interposed between

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GaN active layer 109 and  $\text{Al}_2\text{O}_3$  single crystal base 101.

The only dislocation density value disclosed in Udagawa pertains to GaN active layer 109. That is, Udagawa discloses only that the dislocation density of GaN layer 109 can be reduced to  $1 \times 10^8/\text{cm}^2$ . As explained above, pending independent claims 1 and 8 each recite that an Al-including Group III nitride film has a screw-type dislocation density value up to  $1 \times 10^8/\text{cm}^2$ . In contrast to pending claims 1 and 8, Udagawa does not disclose or suggest an *Al-including* Group III nitride film having the claimed dislocation density value. Therefore, Udagawa does not disclose or suggest each and every element recited in pending claims 1 and 8. The §102 rejection should be withdrawn for this reason alone.

Nor is there any teaching or suggestion in Udagawa of what the dislocation density is, or should be for that matter, in any of Udagawa's Al-including Group III nitride layers. Again, Udagawa discloses a dislocation density value pertaining only to the *non-Al-including* active layer 109. Moreover, the fact that Udagawa does not disclose a dislocation density value with respect to any Al-including layer evidences that the dislocation density value for those Al-containing layers is not even important in the context of Udagawa's invention. Udagawa's disclosure shows no interest in controlling the dislocation density of an Al-including Group III nitride layer, as claimed.

In view of all of the foregoing, reconsideration and withdrawal of the §102(b) rejection over Udagawa are respectfully requested.

3. Claims 8-15 were rejected under §103(a) over Udagawa in view of Applicants' Admitted Prior Art (AAPA). This rejection is respectfully traversed.

The same arguments discussed above with respect to the §102(b) rejection over Udagawa apply equally to this rejection. That is, in contrast to pending claims 1 and 8, Udagawa does not disclose or suggest an Al-including Group III nitride film having a screw-

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type dislocation density up to  $1 \times 10^8/\text{cm}^2$ . There is no disclosure or suggestion in Udagawa of what the dislocation density value of any of the Al-including Group III nitride layers is or should be, which evidences that the dislocation density value for the Al-including Group III nitride layers is not even important. Accordingly, the PTO's citation to page 1 of the present specification fails to cure the deficient disclosure of Udagawa.

In view of the foregoing, reconsideration and withdrawal of the §103(a) rejection over Udagawa and AAPA are respectfully requested.

New dependent claims 16-21 have been added to further distinguish the present application over Udagawa. For example, new claims 16 and 17 each recite that an Al-including Group III nitride film is formed directly on a base. It is respectfully submitted that Udagawa discloses that several layers intervene between GaInN active layer 109 (which, again, does not even include Al) and  $\text{Al}_2\text{O}_3$  substrate 101. Accordingly, new claims 16 and 17 provide further patentable distinctions over Udagawa.

Nor does Udagawa disclose the features recited in new dependent claims 18-21. For example, new claims 18-21 recite that the Al-including Group III nitride film dislocation density is less than  $1 \times 10^8/\text{cm}^2$ , preferably no more than  $1 \times 10^7/\text{cm}^2$ . It is respectfully submitted that Udagawa discloses that the dislocation density value for active layer GaInN 109 can be reduced down to  $1 \times 10^8/\text{cm}^2$ . Accordingly, even if one skilled in the art were to ignore the fact that GaInN active layer 109 does not even include Al, there would still be no disclosure or suggestion that GaIn active layer 109, or any other Group III nitride layer discussed in Udagawa for that matter, includes a dislocation density value less than  $1 \times 10^8/\text{cm}^2$ , or more preferably, no more than  $1 \times 10^7/\text{cm}^2$ , as claimed. Accordingly, claims 18-21 provide further patentable distinctions over Udagawa.

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If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,



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